

Morgan C. Levy

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Research Interests:

Hydrology, hydroclimate, and water resources; land use and climate change effects on human health and the environment; human-environmental system dynamics; and environmental data science.

Thesis: “Quantifying the effect of land use change on hydrology in Brazil”

Advisor: Sally Thompson, Civil and Environmental Engineering, UC Berkeley

Education:

University of California, Berkeley, CA	Energy and Resources Group	Ph.D., 2016
University of California, Berkeley, CA	Statistics	M.A., 2013
University of California, Berkeley, CA	Energy and Resources Group	M.S., 2012
Sarah Lawrence College, NY	Liberal Arts	B.A., 2005

Positions:

Assistant Professor, Scripps Institution of Oceanography, School of Global Policy and Strategy,
UC San Diego, Jul. 2020 – present

Postdoctoral Researcher, School of Global Policy and Strategy, UC San Diego, Jan. 2018 – Jun. 2020

Postdoctoral Researcher, School of Public Health, UC Berkeley, Jan. 2017 – Dec. 2017

Graduate Student Researcher, Thompson Ecohydrology Lab, Civil and Environmental Engineering,
UC Berkeley, May. 2013 – Dec. 2016

Water and Sustainability Program Researcher, Pacific Institute, Oct. 2010 – Apr. 2012

Fulbright Fellow, Delft University of Technology (NL) Water Research Center, Sep. 2009 – Jun. 2010

Water Program Assistant, Natural Resources Defense Council, 2007 – 2009

Northwest Regional Assistant, Heifer International, 2006 – 2007

Products:

Publications (Published)

Levy, M.C., Neely, W.R., Borsa, A.A., and Burney, J.A. 2020. Fine-Scale Spatiotemporal Variation in Subsidence across California’s San Joaquin Valley Explained by Groundwater Demand. *Environmental Research Letters*. <https://doi.org/10.1088/1748-9326/abb55c>.

Müller, M.F. and **Levy, M.C.** 2019. Complementary Vantage Points: Integrating Hydrology and Economics for Sociohydrologic Knowledge Generation. *Water Resources Research* 55 (4): 2549–71. <https://doi.org/10.1029/2019WR024786>.

Levy, M.C., Collender, P.A., Carlton, E.J., Chang, H.C., Strickland, M.J., Eisenberg, J.N.S., Remais, J.V. 2019. Spatiotemporal Error in Rainfall Data: Consequences for Epidemiologic Analysis of Waterborne Diseases. *American Journal of Epidemiology* 188 (5): 950–59. <https://doi.org/10.1093/aje/kwz010>.

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September 2020

Levy, M.C., Lopes, A.V., Cohn, A., Larsen, L.G., Thompson, S.E. 2018. Land use change increases streamflow across the arc of deforestation in Brazil, *Geophysical Research Letters*, 45, doi:10.1002/2017GL076526.

Jiang, B., Liang, S., Peng, Z.R., Cong, H., **Levy, M.C.**, Cheng, Q., Wang, T., Remais, J.V. 2017. "Transport and Public Health in China: The Road to a Healthy Future." *The Lancet* 390 (10104): 1781–91. doi:10.1016/S0140-6736(17)31958-X.

Levy, M.C., Cohn A., Lopes A.V., and Thompson, S.E. 2017. Addressing Rainfall Data Selection Uncertainty Using Connections between Rainfall and Streamflow." *Scientific Reports* 7 (1): 219. doi:10.1038/s41598-017-00128-5.

Levy, M.C., Garcia, M., Blair, P., Chen, X., Gomes, S.L., Gower, D.B., Grames, J., Kuil, L., Marston, L., McCord, P.F., Roobavannan, M., Zeng, R. Wicked but Worth It: Student Perspectives on Socio-Hydrology. *Hydrological Processes*. 2016. doi:10.1002/hyp.10791.

Konar, M., Evans, T.P., **Levy, M.C.**, Scott, C.A., Troy, T.J., Vörösmarty, C.J., and Sivapalan, M. Water Resources Sustainability in a Globalizing World: Who Uses the Water? *Hydrological Processes*. 2016. doi:10.1002/hyp.10843.

Christian-Smith, J., **Levy, M.C.**, Gleick, P.H. Maladaptation to drought: a case report from California, USA. *Sustainability Science*. 2014, 10, 491–501. doi:10.1007/s11625-014-0269-1.

Publications (Submitted):

Levy, M.C., Kraay, A.N.M., Collender, P.A., Lee, G.O., Carlton, E.J., Eisenberg, J.N.S., Remais, J.V. Hydrologic processes mediate associations between extreme rainfall and diarrhea in rural coastal Ecuador. *In review*.

Gonzalez, J.A., Moore, F.C., AghaKouchak, A., **Levy, M.C.**, Qin, Y., Burney, J.A., Davis, S.J. Estimating the Adaptive Benefits of Water Markets for Irrigated Agriculture. *In review*.

Kraay, A.N.M., Levy, K., Ionides, E.L., **Levy, M.C.**, Remais, J.V., Eisenberg, J.N.S. Introduction of the Rotarix vaccine alters association between temperature and diarrhea in Northern Ecuador. *In Review*.

Kraay, A.N.M., Man, O., **Levy, M.C.**, Levy, K., Eisenberg, J.N.S. Understanding the impact of rainfall on diarrhea: testing the concentration- dilution hypothesis using a systematic review and meta-analysis. *In Review*.

Datasets:

Levy, M.C. Curated rain and flow data for the Brazilian rainforest-savanna transition zone. Consortium of Universities for the Advancement of Hydrologic Science (CUAHSI), Hydroshare, 2017. <http://www.hydroshare.org/resource/e82e66572b444fc5b6bf16f88f911f77>.

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Reports:

Cook C., Gunasekara A., **Levy, M.C.** Climate Change Consortium for Specialty Crops - Impacts and Strategies for Resilience, *Report for the California Department of Food and Agriculture*. 2013. <https://www.cdfa.ca.gov/environmentalstewardship/pdfs/ccc-report.pdf>

Levy, M.C., Christian-Smith, J. Groundwater Management in the Central Coast's Pajaro Valley, *California Agricultural Water Success Stories*, Pacific Institute. 2011. http://pacinst.org/wp-content/uploads/2013/02/groundwater_management_in_pajaro_valley3.pdf

Christian-Smith, J., **Levy, M.C.**, and Gleick, P.H. Impacts of the 2007-2009 California Drought, *Report for the Pacific Institute*. 2011. http://pacinst.org/wp-content/uploads/sites/21/2013/02/ca_drought_impacts_full_report3.pdf

Presentations:

American Geophysical Union (AGU) Fall Meeting, Dec. 2019 (Oral, Convener)
American Geophysical Union (AGU) Fall Meeting, Dec. 2018 (Poster)
UCSD Institute for Public Health's 4th Annual Public Health Research Day, Apr. 2018 (Poster)
CUAHSI Biennial Colloquia on Water Science, Jul. 2016 (Poster)
Association of American Geographers (AAG) Annual Meeting, Apr. 2016 (Oral)
American Geophysical Union (AGU) Fall Meeting, Dec. 2015 (Oral)
GIS Day at the UC Berkeley Geospatial Innovation Facility, Nov. 2015 (Oral)
Woods Hole Research Center, May 2015 (Oral)
American Geophysical Union (AGU) Fall Meeting, Dec. 2014 (Oral)
Graduate Climate Conference, University of Washington, Nov. 2014 (Oral)
European Geosciences Union General Assembly, Apr. 2014 (Poster)
American Geophysical Union (AGU) Fall Meeting, Dec. 2013 (Poster)
Graduate Climate Conference, MIT/ Woods Hole Oceanographic Institution, Nov. 2013 (Oral)
CalCAN Climate and Agriculture Summit, University of California Davis, Feb. 2013 (Poster)
American Geophysical Union (AGU) Fall Meeting, Dec. 2012 (Poster)

Honors and Activities:

Fellowships and scholarships:

Hellman Graduate Award (2016)
Graduate Fellowship, Philomathia Foundation Chair in Alternative Energy UCB (2014-2015)
NSF-GRFP (2012)
EPA-STAR (2011)
Association of California Water Agencies' 2010-2011 Water Law & Policy Scholarship
World Resources Institute - Global Forest Watch Student Research Program (2014)
NextProf 2013 Workshop for Women in Academia, U. Mich. College of Engineering
NSF-EAPSI Summer Program, Australia (2012)

Teaching and Mentorship:

Teaching:

Graduate Student Instructor, Introduction to Hydrology, Civil and Environmental Engineering, UC Berkeley, Jan. – May 2016.

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- Lectured and developed instructional material for weekly sections.

Guest Lecturer, Public Health Implications of Global Climate Change, Department of Public Health, UC Berkeley, Spring, 2017.

- Guest lecture and in-class exercise: “Understanding climate data and models for the study of climate and health”.

Guest Lecturer, Spatial/Dynamic Modeling Seminar (graduate student-led), Environmental Science, Policy, and Management, UC Berkeley, Spring, 2014.

- Guest Lecture: “Point-Referenced Data: Traditional Geostatistical and Bayesian Modeling in R”

Mentorship:

Committee Member, Capstone Project for the UC San Diego Master of Advanced Studies in Climate Science and Policy, Scripps Institution of Oceanography, Spring 2018.

- Supervised research for masters capstone project.

Mentor, UC Berkeley STEER Program, Summer 2016 and 2017.

- Supervised undergraduate researchers.

Mentor, UC Berkeley Cal Energy Corps Program, Summer 2014 and 2015.

- Supervised undergraduate researchers.

Mentor, UC Berkeley Civil and Environmental Engineering Undergraduate Honors Program, Summer 2013.

- Supervised research for undergraduate honors thesis.

Reviewer:

Environmental Research Letters (2020-present)

Journal of Hydrology (2019-present)

Journal of Hydrology: Regional Studies (2020-present)

Journal of Hydrometeorology (2019-present)

Geophysical Research Letters (2015-present)

Hydrology and Earth System Sciences (2013-present)

Water Security (2018-present)

Water Resources Research (2017-present)

Science of the Total Environment (2019-present)

Zoonoses and Public Health (2019-present)

Member:

American Geophysical Union (2012-present)

Association of American Geographers (2015 – 2017)

The Association of Women in Water, Energy and Environment (2012-2016)

Berkeley Energy and Resources Collaborative (2010-2012)